

Chemical Properties

- A chemical property is a behaviour that occurs when a substance changes to a new substance.

- For example:

Is the substance combustible?

Does the substance have a reaction with acid?

Does the substance react with water?

bubbles or gas given off.
heat, flame

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Physical Changes

- Do not change the organization of subatomic particles of the sample of matter.

- Can be undone quite easily.

Key: No new substance is created.

- Examples: melting ice, freezing water, dissolving salt into water, breaking a stick.

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Chemical Changes

- Change the organization of subatomic particles of the sample of matter.

- Not easily undone – almost impossible

Key: New substance almost always formed.

- Examples: burning wood, baking a cake, digesting food

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Clues that a chemical change has occurred

1. A new color appears.
2. Heat or light is given off.
3. Bubbles of gas are formed.
4. A solid material (called a precipitate) forms in a liquid.
5. The change is difficult to reverse.

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Chemical Change

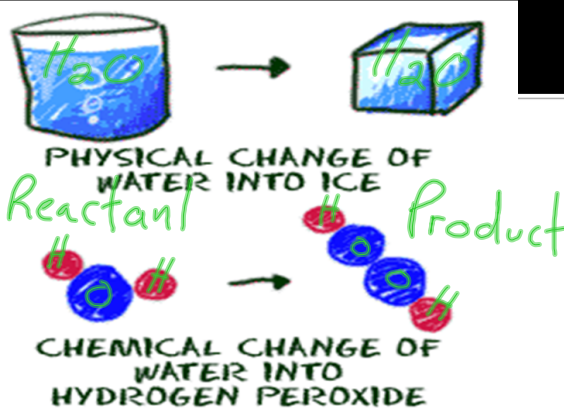
- The starting materials are called reactants and the new materials produced are called products.

- REACTANTS → PRODUCTS

chemical equation



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Physical Changes

- Here are some examples of physical changes:

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Melting popsicle



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Broken Twig



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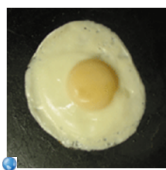
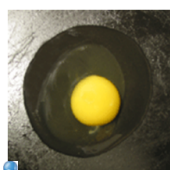


Chemical Change

- Here are some other examples of chemical changes:

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Raw egg becomes cooked egg



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Cake mix becomes cake



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Steel becomes rust

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Your Turn**Chemical or Physical Changes**

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Chemical or Physical ?

Cutting a piece of wood.

Phys.



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Chemical or Physical ?

Chewing of food

Phys.



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Chemical or Physical ?

Rusting Nail

chem



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Chemical or Physical ?

Ice Melting

Phys.



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Chemical or Physical ?

Burning a Match

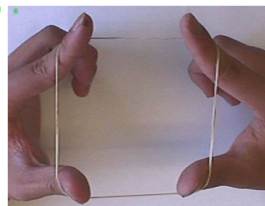


chem
becomes solid physical
candle melting
wax melting
phys.
wick burning
chemical

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Chemical or Physical ?

Stretching a Rubber Band



Phys.

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Chemical or Physical ?

Breaking a Stick



Phys.

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Chemical or Physical ?

Tarnishing Silver



Chem.

oxidization

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Chemical or Physical ?

Ripening Tomatoes



Chem.

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Chemical or Physical ?

Water Boiling



Phys.

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Notes **Chemical Tests** *4 to Remember.*

Used to identify unknown substances.

Examples:

1. Oxygen gas is indicated if glowing splint bursts into flame
2. Carbon Dioxide is present if limewater solution turns milky. (white precipitate)

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Chemical Tests

Examples:

3. Hydrogen gas is present if flaming split makes a "pop."
4. Water vapor is present if cobalt chloride paper changes from blue to pink

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